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ABSTRACT

Temperament refers to basic dimensions of personality that are grounded in biology and explain individual differences in the developmental process rather than universal dynamics. Temperament is currently an active area of research with documented applicability to a variety of developmental and mental health outcomes such as conscience formation, peer interaction, behavior problems, school achievement, psychopathology, and vulnerability, as well as resistance to stress. Unresolved conceptual issues and problems with measurement limit the applicability of this knowledge by practitioners. This digest examines the following questions: (1) What is the structure of temperament? (2) What issues remain in assessing temperament? (3) How are temperament and personality related? and (4) How do temperament dimensions exert their influence? The documented association of temperament traits with diverse outcomes linked with normal development and psychopathology have left no doubt about the value of this construct. Future refinements in definitions and measurement, as well as a better understanding of how temperament exerts its influence will promote greater application of these concepts to designing programs for prevention and intervention in mental health and educational settings. Contains 10 references. (JBJ)

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ASSESSMENT OF TEMPERAMENT

By Hedwig Teglasi

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ERIC CLEARINGHOUSE ON Counseling And Student Services

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Assessment of Temperament

Hedwig Teglasi

Overview

Temperament refers to basic dimensions of personality that are grounded in biology and explain individual differences in the developmental process rather than universal dynamics. While these dimensions show continuity over time, they are subject to change with maturation and experience. The view of behavior as a function of the organism and of the environment is basic to psychology. Accordingly, temperament serves as a mechanism to explain how individuals contribute to their own development in a given environmental context. Harmony between persons and their surroundings is produced through bidirectional interplay between inborn, temperamental attributes and external demands, supports, and circumstances.

Temperament is generally identified with: a) the components of personality that are biological in origin (e.g., Buss & Plomin, 1984); b) traits that are relatively stable, cross situationally consistent, and evident throughout the age span and diverse cultures (Rothbart & Derryberry, 1981); and c) the style (how) rather than the content (what) or purpose (why) of behavior (Thomas & Chess, 1977). In contrast, personality serves as a central organizer of behavior that influences the expression of temperamental traits. Thus, personality determines the specific content and purpose of behavior.

Temperament is currently an active area of research with documented applicability to a variety of developmental and mental health outcomes such as conscience formation, peer interaction, behavior problems, school achievement, psychopathology, and vulnerability as well as resistance to stress. Given that temperamental extremes constitute risk factors, specific temperament dimensions can be flagged as early precursors of impaired adjustment.

Although the importance of the construct is well established, unresolvedconceptual issues and problems with measurement limit the applicability of this knowledge by practitioners. The many choices of dimensions identified as separate elements, how they should be combined, and their proper measurement given these choices constitute a continuing debate. Reviews of available instruments document their problems including inconsistent stability, low interrater reliability, and questions about construct validity (Slabach, et al., 1991). Nevertheless, increasing use of temperament scales call for research to elaborate and refine conceptualizations to develop improved measures, and to incorporate temperament constructs in theories of personality as well as in the design of prevention and intervention strategies.

What is the Structure of Temperament?

The nine-dimensional model of Thomas & Chess (1977) has been the basis for the development of the most popular measures of temperament in the United States. The nine dimensions are: mood, approach-withdrawal, intensity, threshold, rhythmicity, distractibility, attention span, persistence, and adaptability. However, substantial overlap found among some of these dimensions has led to questions about their validity as separate constructs. Factor analyses suggest (see review by Martin, et al., in press) that these nine dimensions separate into five robust factors and two factors that are less consistent across measures and ages. The five robust factors are: Inhibition (approach-avoidance), negative emotionality, adaptability, activity level, and task persistence. The two less consistent factors are: threshold and biological rhythmicity. The five robust dimensions emerging from the factor analytic study of childhood temperament resemble the Big Five factors identified in the study of adult personality and suggest a temperamental underpinning to personality.

Buss and Plomin (1984) emphasized the two criteria of early appearance and heritability as defining properties of temperamental traits and developed a measure based on the following three dimensions: emotionality, activity, and sociability (EAS). Factor analysis of a selected set of items from the EAS and the nine-dimensional model (ages 1-6) suggested the following factors: emotionality, soothability, activity, attention span, and sociability (Rowe & Plomin, 1977).

Rothbart and Derryberry (1981) defined temperament as constitutionally based individual differences in reactivity and self-regulation (influenced over time by heredity, maturation, and experience). Reactivity refers to the activation of motor, affective, autonomic, and endocrine systems. Self-regulation refers to the processes that modulate reactivity such as attention, approach-withdrawal, inhibition, and self-soothing. This framework broadens the possibility of identifying temperament dimensions to include those that do not appear within the first years of life. Furthermore, this approach promotes the application of research in areas such as emotion and cognition to refine temperament dimensions. In developing a series of temperament questionnaires for various ages, Rothbart and her colleagues identified as many as 15 dimensions of temperament, some of which are refinements of those previously identified such as emotionality (see Goldsmith & Rothbart, 1991).

What Issues Remain in Assessing Temperament?

One problem in the assessment of temperament is that measures for older children have been either upward extensions of temperament constructs and scales derived from observations on infants and toddlers or based on biological models without regard to development. An emphasis on early appearing traits precludes the consideration of characteristics that may be genetically programmed to emerge later in time and disregard

of developmental processes excludes from consideration age-related variation in the expression of temperament. Developmental changes in the elicitors of temperamental responses such as fear or pleasure have been studied in the early years through contrived laboratory situations, but such prototypical situations at later ages remain to be determined.

Response parameters need to reflect the greater complexity and differentiation of behavior with development. Commonly assessed response parameters in laboratory studies with young children have been duration, latency, and intensity. However, other parameters that tap the greater organization of behavior with development might entail modulation, self-regulation, or attunement to context Furthermore, age and rater differences in the meaning of specific items on scales have not been investigated.

How Are Temperament and Personality Related?

Despite efforts to distinguish between temperament and the more general concept of personality, the contrast between them is obscured by the following (see Prior, 1992): a) a common descriptive vocabulary; b) overlapping concepts; and c) failure of empirical data to differentiate between temperament and personality on the basis of biological factors.

The concept of self-regulation, widely studied as a personality variable, has also been regarded as a temperamental trait. Self-regulation as a personality construct appears to be defined in general terms encompassing the manner in which an individual thinks, feels, acts, and reacts. The temperament view refers to the basic processes involved in optimizing stimulation, alertness, and affective arousal.

Needed is an explanation of how the basic response styles identified as temperamental traits express themselves in larger units of functioning such as self-regulation in the broader sense. Temperament contributes to the coherence of the individual's current functioning and to both continuity and lawful changes in the developmental process. The individual's current state (personality) can be framed in terms of unfolding processes (continuous interaction between person and environment) that led to its development.

How do temperament dimensions exert their influence?

The mechanisms by which temperament dimensions exert their influence on broader areas of functioning are less well understood than the traits themselves. Martin (1994) reviewed two possible causal linkages between temperamental dispositions and children's common problems in educational settings that focus on the interplay of temperament with the environment:

1) Some components of the environment strengthen temperamental dispositions because the environment that is actually experienced is linked with those predispositions in three ways: a) on average, children share 50% of their own genetic make up with each of their parents who then provide environments that are influenced by their own genetic backgrounds; b) children's behavioral styles (i.e., temperaments) elicit responses from others in the environment in ways that strengthen their disposition; and c) children actively seek environments that are in harmony with their predispositions.

2) Temperament acts as a predisposition to (or buffer against) risk in the context of stressful conditions. According to this model, the role of the environment varies with the degree of predispositional risk.

A third possibility, that temperament influences the perception and synthesis of life experiences, is suggested by research on the impact of emotion on information processing and memory. Similarly, attentional processes, considered by many as temperamental, would be expected to have a very basic impact on the interpretation of information. Over time, the cumulative influence of temperament on the understanding of experiences (social and task) shapes the individual's inner world including views of relationships and expectations about events. These inner structures corroborate and amplify the original predispositions. Strategies to intervene must be aimed at altering the processes set into motion by the individual's temperamental dispositions.

Conclusions

Temperament is a compelling framework within which to study the contribution of individual differences to the developmental process. The documented association of temperament traits with diverse outcomes linked with normal development and psychopathology have left no doubt about the value of this construct. Future refinements in definitions and measurement as well as a better understanding of how temperament exerts its influence will promote greater application of these concepts to designing programs for prevention and intervention in mental health and educational settings.

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